

Application No.: 10/008,716
Amendment and Response dated March 1, 2006
Reply to final Office Action of November 23, 2005
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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the subject application, and please amend the claims as follows:

Claims 1-34 (Canceled)

Claim 35. (Currently amended): An implantable endoprosthesis and radiopaque marker system including:

an implantable endoprosthesis adapted to be disposed in a body lumen; and
a marker having at least one radiopaque portion including a radiopaque material, wherein the marker is removably attached to the implantable endoprosthesis to improve a radiopacity of the endoprosthesis, and is removable from the endoprosthesis when the endoprosthesis is in vivo, wherein the radiopaque material includes an element having an atomic number of at least 22 and wherein the marker includes a polymer matrix combined with a powder, and the powder includes the element.

Claim 36. (Previously presented): The system of claim 35 wherein:

the marker has a portion extending away from the endoprosthesis when the marker is so attached thereto, and the marker is removable from the endoprosthesis by pulling said portion away from the endoprosthesis.

Claim 37. (Previously presented): The system of claim 36 wherein:

the marker is elongate, and said portion of the marker comprises a free end thereof.

Claim 38. (Previously presented): The system of claim 37 further including:

a component at the free end of the marker for facilitating the pulling of the free end away from the endoprosthesis.

Claim 39. (Previously presented): The system of claim 38 wherein: said component is selected from the group consisting of: hooks, knobs, rings, and eyelets.

Claim 40. (Canceled)

Claim 41. (Currently amended): The system of claim 35 ~~[[40]]~~ wherein:
the radiopaque material includes said element in a form selected from the group consisting of: a metal, a metallic alloy including the element, an oxide including the element, and a salt including the element.

Claim 42. (Canceled)

Claim 43. (Currently amended): ~~The system of claim 35~~ An implantable endoprosthesis and radiopaque marker system including:

an implantable endoprosthesis adapted to be disposed in a body lumen; and
a marker having at least one radiopaque portion including a radiopaque material,
wherein the marker is removably attached to the implantable endoprosthesis to improve a
radiopacity of the endoprosthesis, and is removable from the endoprosthesis when the
endoprosthesis is in vivo, wherein[[:]] the radiopaque portion of the marker is provided as a
coating.

Claim 44. (Previously presented): The system of claim 35 further including:
a delivery device adapted for a delivery of the endoprosthesis to a body lumen and a withdrawal of the delivery device from the body lumen after an implantation of the endoprosthesis within the body lumen; and
wherein the marker further is attached to the delivery device whereby said withdrawal of the delivery device removes the marker from the endoprosthesis.

Claim 45. (Withdrawn): The system of claim 35 wherein: a portion of the marker is woven into the endoprosthesis.

Claim 46. (Currently amended): ~~The system of claim 35~~ An implantable endoprosthesis and radiopaque marker system including:

an implantable endoprosthesis adapted to be disposed in a body lumen; and
a marker having at least one radiopaque portion including a radiopaque material,
wherein the marker is removably attached to the implantable endoprosthesis to improve a
radiopacity of the endoprosthesis, and is removable from the endoprosthesis when the
endoprosthesis is in vivo, wherein[[:]] the marker is formed as a spring, and when removably
attached to the implantable endoprosthesis is retained with respect to the endoprosthesis by a spring force.

Claim 47. (Withdrawn): The system of claim 35 further including: an adhesive for temporarily securing the marker to the endoprosthesis.

Claim 48. (Withdrawn): The system of claim 35 further including: a wire for removably attaching the marker to the endoprosthesis.

Claim 49. (Withdrawn): The system of claim 48 wherein:
the wire is engaged with the endoprosthesis and the marker in a manner that requires a removal of the wire from the endoprosthesis before removal of the marker from the endoprosthesis.

Claim 50. (Currently amended): ~~The system of claim 35~~ An implantable endoprosthesis and radiopaque marker system including:

an implantable endoprosthesis adapted to be disposed in a body lumen; and
a marker having at least one radiopaque portion including a radiopaque material,
wherein the marker is removably attached to the implantable endoprosthesis to improve a
radiopacity of the endoprosthesis, and is removable from the endoprosthesis when the
endoprosthesis is in vivo, wherein[[:]] the radiopaque material is adapted to be at least partially
dispersed from the marker into the body when the endoprosthesis is in vivo.

Claim 51. (Previously presented): The system of claim 35 wherein:
the marker includes a material selected from the group consisting of: barium sulfate, bismuth trioxide, iodine, iodide, titanium oxide, zirconium oxide, gold, platinum, silver, tantalum, niobium, stainless steel, and combinations thereof.

Claim 52. (Withdrawn): The system of claim 35 wherein: the marker includes at least one hollow or porous portion therein adapted to receive the radiopaque material.

Claim 53. (Currently amended): A retrievable radiopaque marker comprising:
an elongate strand having a proximal end, a distal end, an average thickness of from about 20 microns to about 500 microns, wherein the strand is adapted to be removably attached to an implantable endoprosthesis with a segment of the strand extending away from the endoprosthesis, thereby to facilitate a removal of the strand from the endoprosthesis by pulling the strand by said segment away from the endoprosthesis, and wherein the elongate strand has at least one radiopaque portion that includes a radiopaque material and is disposed proximate the endoprosthesis to improve a radiopacity of the endoprosthesis when the strand is so attached thereto, thus to facilitate locating the endoprosthesis in vivo by fluoroscopic imaging; and

wherein said segment of the strand comprises a component to facilitate said pulling of the strand, and further wherein said component comprises a handle selected from the component group consisting of: hooks knobs rings eyelets, and handles.

Claims 54-55 (Cancelled)

Claim 56. (Currently amended): A process for modifying an implantable endoprosthesis to temporarily enhance a fluoroscopic visualization of the endoprosthesis during and after an implantation thereof in a body lumen, including:

providing a body implantable endoprosthesis;

providing a marker having at least one radiopaque portion including a radiopaque material; and

prior to a deployment of the endoprosthesis in a body lumen, attaching the marker to the implantable endoprosthesis to improve a radiopacity of the endoprosthesis, and attaching the marker in a manner that facilitates a removal of the marker from the endoprosthesis when the endoprosthesis is in vivo after the deployment; and

after attaching the marker to the endoprosthesis, mounting the endoprosthesis releasably to a delivery device.

Claim 57. (Previously presented): The process of claim 56 wherein:

said marker when so attached has a free end extending away from the endoprosthesis, whereby the marker is removable from the endoprosthesis by pulling the free end away from the endoprosthesis.

Claim 58. (Previously presented): The process of claim 56 wherein:

the attaching of the marker to the endoprosthesis comprises using a mode of attachment selected from the group consisting of: weaving the marker into the endoprosthesis; providing the marker as a spring having a spring force and using the spring force to retain the marker

attached to the endoprosthesis; and applying the marker to the endoprosthesis using an adhesive.

Claim 59. (Canceled)

Claim 60. (Currently amended): The process of claim 56 ~~[[59]]~~ further including:
securing the marker to the delivery device, thereby to enable a removal of the marker from the endoprosthesis by withdrawing the delivery device from the lumen after the deployment and with the endoprosthesis remaining in the lumen.

Claims 61- 63 (Canceled)

Claim 64. (Previously Presented): The system of claim 44 wherein:
the marker is attached to the delivery device by a mode of attachment selected from the group consisting of: mechanical fastening, thermal bonding, and chemical bonding.

Claim 65. (Previously presented): The system of claim 44 wherein:
the delivery device includes a tube having a distal region surrounded by the endoprosthesis during said delivery of the endoprosthesis to the body lumen, and the marker is attached to the tube at a location proximal of said distal region.

Claim 66. (Canceled)

Claim 67. (Currently amended): The process of claim 60 wherein: said securing the marker to the delivery device comprises using a mode of attachment selected from the group consisting of~~[[:]]~~ mechanical fastening, thermal bonding, and chemical bonding.

Claim 68. (Previously presented): The process of claim 60 wherein:
the delivery device includes a tube, and said mounting the endoprosthesis releasably to
a delivery device includes disposing the endoprosthesis in surrounding relation to a distal
region of the tube; and
said securing the marker to the delivery device includes attaching the marker to the tube
at a location proximal of said distal region.

Claims 69-70 (Canceled)

Claim 71. (Previously presented): The marker of claim 53 wherein:
said segment comprises the proximal end of the strand.

Claim 72. (Previously presented): The marker of claim 53 further comprising: an
implantable endoprosthesis, wherein the strand is so attached to the endoprosthesis.

Claim 73. (Previously presented): The marker of claim 72 further including:
a delivery device adapted for a delivery of the endoprosthesis to a body lumen and a
withdrawal of the delivery device from the body lumen after an implantation of the
endoprosthesis within the body lumen; and
wherein the strand further is attached to the delivery device whereby said withdrawal of
the delivery device removes the strand from the endoprosthesis.

Claim 74. (Previously presented): The marker of claim 72 further including: an
adhesive for removably attaching the strand to the endoprosthesis.

Claim 75. (Previously presented): The marker of claim 53 wherein:
the radiopaque material comprises an element having an atomic number of at least 22,
in a form selected from the group consisting of: a metal, a metallic alloy including the element,
an oxide including the element, and a salt including the element.

Claim 76. (Previously presented): The marker of claim 75 wherein:
the strand includes a polymer matrix combined with a powder, and the power includes
the element.

Claim 77. (Previously presented): The marker of claim 53 wherein: the radiopaque
portion of the strand is provided as a coating.

Claim 78. (Previously presented): The marker of claim 53 wherein:
the radiopaque material is adapted to be at least partially dispersed from the strand into
the body when the strand is in vivo.

Claim 79. (Withdrawn): The marker of claim 78 wherein: the strand includes a reservoir
portion adapted to receive the radiopaque material.

Claims 80-82 (Canceled)

Claim 83. (Previously presented): A retrievable radiopaque marker comprising:
an elongate strand having a proximal end, a distal end, an average thickness of from
about 20 microns to about 500 microns, wherein the strand is adapted to be removably attached
to an implantable endoprosthesis with a segment of the strand extending away from the
endoprosthesis, thereby to facilitate a removal of the strand from the endoprosthesis by pulling
the strand by said segment away from the endoprosthesis, and wherein the elongate strand has
at least one radiopaque portion that includes a radiopaque material and is disposed proximate

the endoprosthesis when the strand is so attached thereto, thus to facilitate locating the endoprosthesis in vivo by fluoroscopic imaging;

wherein the radiopaque material comprises an element having an atomic number of at least 22; and

wherein the strand includes a polymer matrix combined with a powder, and the powder includes the element.

Claim 84. (Previously presented): A retrievable radiopaque marker comprising:

an elongate strand having a proximal end, a distal end, an average thickness of from about 20 microns to about 500 microns, wherein the strand is adapted to be removably attached to an implantable endoprosthesis with a segment of the strand extending away from the endoprosthesis, thereby to facilitate a removal of the strand from the endoprosthesis by pulling the strand by said segment away from the endoprosthesis, and wherein the elongate strand has at least one radiopaque portion that includes a radiopaque material and is disposed proximate the endoprosthesis when the strand is so attached thereto, thus to facilitate locating the endoprosthesis in vivo by fluoroscopic imaging; and

wherein the radiopaque portion of the strand is provided as a coating.

Claim 85. (Previously presented): A retrievable radiopaque marker comprising:

an elongate strand having a proximal end, a distal end, an average thickness of from about 20 microns to about 500 microns, wherein the strand is adapted to be removably attached to an implantable endoprosthesis with a segment of the strand extending away from the endoprosthesis, thereby to facilitate a removal of the strand from the endoprosthesis by pulling the strand by said segment away from the endoprosthesis, and wherein the elongate strand has at least one radiopaque portion that includes a radiopaque material and is disposed proximate the endoprosthesis when the strand is so attached thereto, thus to facilitate locating the endoprosthesis in vivo by fluoroscopic imaging; and

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wherein the radiopaque material is adapted to be at least partially dispersed from the strand into the body when the strand is in vivo.

Claim 86. (Canceled)